



How to maintain your Rain Garden, Bioswale, or Micro-Bioretention Area

STORMWATER FACILITY MAINTENANCE PROGRAM

What are rain gardens, bioswales, and micro-bioretention facilities?

Rain gardens, bioswales, and micro-bioretention areas are functional landscaping features that filter rainwater and improve water quality.

Micro-bioretention areas are typically planted with native plants and have three layers: mulch; a layer of soil, sand, and organic material mixture; and a stone layer. A perforated pipe within the stone layer collects and directs the filtered rainwater from large storms to a storm drain system so the facility drains within 2 days. Micro-bioretention areas are often located in parking lot islands, cul-de-sac islands, or along roads.

Rain gardens are very similar to micro-bioretention areas, except they do not have a buried perforated pipe. They often collect water from roof gutters, driveways, and sidewalks. Rain gardens are common around homes and townhomes.

A bioswale is similar to a micro-bioretention area in the way it is designed with layers of vegetation, soil, and a perforated pipe within the bottom stone layer. Bioswales typically are located along a roadway.

These facilities need simple maintenance, similar to other landscaping areas, including:

- Weeding
- Pruning
- Mulching
- Removing Trash and Debris



Actions you can take

Do...

Monthly

- ✓ Regularly inspect the facility. Notify DEP if signs of erosion, obstructions, or unhealthy vegetation.
- ✓ Remove weeds and invasive plants.
- ✓ Remove any trash that has washed into the bioretention area or the inlet channels or pipes.
- ✓ Check the facility a few days after a rain storm to make sure that there is not standing water after 2 days.

As needed

- ✓ Cut back dead stems of herbaceous plants in March and remove from the facility.
- ✓ Water new plants during initial establishment of plant growth (first 18 months) and extreme droughts. Watering should only be needed when it has not rained for more than 10 days.
- ✓ Replenish and redistribute mulch to a total depth of 3 inches.
- ✓ Contact DEP if you observe severe erosion.
- ✓ In Fall, remove fallen leaves from the area. Leaves may block the flow of rainwater.

Don't...

- ✗ Don't apply excess salt and sand around the property in winter.
- ✗ Don't store snow and leaves on top of the bioretention area.
- ✗ Don't use fertilizer or pesticide
- ✗ Don't let grass clippings into it

Can I remove the practice?

No, you cannot remove any facilities that were part of your building installation—these are permitted structures and DEP maintains a database of these facility locations. DEP may perform a maintenance inspection of your practice if it is a permitted structure. Contact DEP to find out if you have a permitted structure or if you would like to discuss options for modifying your facility.

Who is responsible for this maintenance?

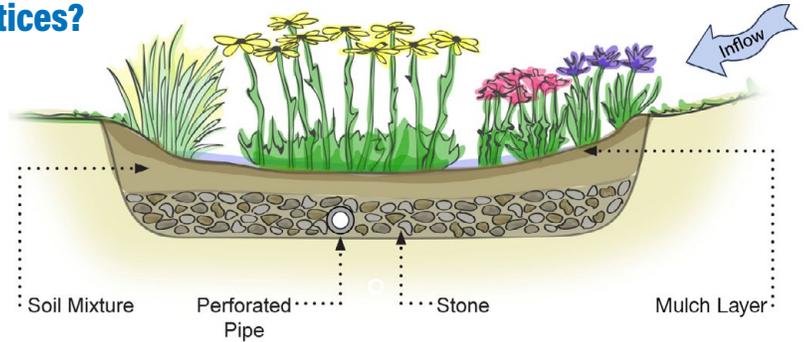
As the property owner, YOU are responsible for all of the maintenance of your micro-bioretention facility, rain garden, and bioswale. If you live along a Green Street with rain gardens in the County right-of-way, please see our *Rain Gardens Along the Roadway* fact sheet.

Why is it important to maintain these practices?

Unmaintained rain gardens, bioswales, and micro-bioretention facilities may:

- Stop filtering the rainwater and allow trash and pollutants to enter our local streams
- Be difficult or expensive to restore if left unmaintained
- Allow water to pool on the surface long enough to allow insects to breed (longer than 3 days)

By maintaining your practice, you are doing your part to help the environment and protect your local streams and the Chesapeake Bay.



Maintain a 3" mulch layer, but no higher. Rake back mulch for even coverage after large storms.

Troubleshooting

Symptom	Possible Cause	Solution
Standing water in the facility	If standing water occurs for over 48 hours, the facility could be clogged or the underdrain may be blocked.	If the facility has a thin layer of surface sediment, remove it and install new soil and mulch. Another possibility is that the pipe needs to be cleaned.
Erosion or bare soil	The runoff is moving too fast and/or the vegetation has died.	Stabilize the soil by planting new vegetation. If needed, use rocks to slow the flow.
Dead or dying plants	Your plants may be the wrong plant type for your shade and moisture conditions, or they may be smothered by weeds.	Plant new vegetation (see the Vegetated Facility Maintenance Guidance Document for more information)
Weeds taking over facility	Established weeds that have already seeded may take multiple years to kill.	Manually remove weeds as soon as you see them. Do not allow weeds to go to seed. Use good quality double shredded mulch.
No mulch or visibly reduced mulch	Mulch naturally decomposes over time. Large storms can also move mulch.	Replenish mulch to a total depth of 3 inches over the entire facility.

Recommended time frames for typical maintenance

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Remove Sediment, Leaves & Debris		✓			✓			✓			✓	
Remove Trash	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Weeding				✓	✓	✓	✓	✓	✓	✓	✓	
Pruning		✓							✓	✓	✓	
Mulching				✓								
Watering, Replanting, Repair Eroded Areas	--- AS NEEDED ---											

See the Vegetated Facility Maintenance Guidance Documents for additional information.

NEED HELP OR HAVE QUESTIONS?

DEP can answer your questions and provide additional guidance about maintaining your bioretention area.

Email us at AskDEP@montgomerycountymd.gov, call the Montgomery County Customer Service Center at 3-1-1, or visit our website: montgomerycountymd.gov/stormwater.